

CLAIMS

1. A pathogen-responsive promoter, comprising:
 - (a) a DNA comprising nucleotide sequence shown in SEQ ID NO:1;
 - 5 (b) a DNA comprising nucleotide sequence shown in SEQ ID NO:1 with replacement, deletion, insertion or addition of one or more nucleotide(s) and functioning as pathogen-responsive promoter in plant cell; or
 - (c) a DNA hybridizing to the DNA of (a) or (b) under a stringent condition and functioning as pathogen-responsive promoter in plant cell.
- 10 2. A pathogen-responsive promoter, comprising:
 - (A) a DNA comprising nucleotide sequence shown in SEQ ID NO:2;
 - (B) a DNA comprising nucleotide sequence shown in SEQ ID NO:2 with replacement, deletion, insertion or addition of one or more nucleotide(s) and functioning as
 - 15 pathogen-responsive promoter in plant cell; or
 - (C) a DNA hybridizing to the DNA of (A) or (B) under a stringent condition and functioning as pathogen-responsive promoter in plant cell.
- 20 3. A pathogen-responsive promoter, comprising:
 - (1) a DNA comprising a continuous portion of nucleotide sequence shown in SEQ ID NO:1, and functioning as pathogen-responsive promoter in plant cell;
 - (2) a DNA according to (1) with replacement, deletion, insertion or addition of one or more nucleotide(s) and functioning as pathogen-responsive promoter in plant cell; or
 - (3) a DNA hybridizing to the DNA of (1) or (2) under a stringent condition and
 - 25 functioning as pathogen-responsive promoter in plant cell.
- 30 4. A pathogen-responsive promoter, comprising:
 - (i) a DNA comprising nucleotide sequence shown in SEQ ID NO:22;
 - (ii) a DNA comprising nucleotide sequence shown in SEQ ID NO:22 with replacement, deletion, insertion or addition of one or more nucleotide(s) and functioning as pathogen-responsive promoter in plant cell; or
 - (iii) a DNA hybridizing to the DNA of (i) or (ii) under a stringent condition and functioning as pathogen-responsive promoter in plant cell.
- 35 5. A pathogen-responsive promoter functioning as pathogen-responsive promoter in

plant cell and comprising:

- (I) a DNA comprising nucleotide sequence shown in SEQ ID NO:23;
- (ii) a DNA comprising nucleotide sequence shown in SEQ ID NO:23 with replacement, deletion, insertion or addition of one or more nucleotide(s); or
- 5 (iii) a DNA hybridizing to the DNA of (i) or (ii) under a stringent condition.

6. The pathogen-responsive promoter according to Claim 5, which is characterized by being responsive specifically to Phytophthora infection.

10 7. A DNA comprising nucleotide sequence shown in SEQ ID NO:23.

8. A DNA comprising 10 or more continuous nucleotides of nucleotide sequence shown in SEQ ID NO:23 and having pathogen-responsive promoter activity.

15 9. A vector comprising the pathogen-responsive promoter according to Claim 5.

10. A vector comprising the DNA according to Claim 8.

11. A DNA construct comprising the promoter according to Claim 5 and a gene
20 linked under the control of the promoter and expressed in plant to activate protective response of the plant.

12. A DNA construct comprising the DNA according to Claim 8, a DNA
25 cooperatively constituting with the DNA a pathogen-responsive promoter, and a gene linked under the control of the constituted pathogen-responsive promoter and expressed in plant to activate protective response of the plant.

13. The DNA construct according to Claim 11, wherein the expression product of the
30 gene has the function to activate communication pathway controlling the protective response of the plant.

14. The DNA construct according to Claim 11, wherein the expression product of the gene has the function to activate SIPK or WIPK.

35 15. The DNA construct according to Claim 11, wherein the gene encodes a

constantly active form of MEK.

16. A transformant derived from host plant transformed by the DNA construct according to Claim 11.

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17. The transformant according to Claim 16, wherein the host plant belongs to Solanaceae.

18. The transformant according to Claim 16, wherein the host plant belongs to Solanum tuberosum.

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19. A method for producing a transgenic plant, comprising the step of:
transforming a host plant with the DNA construct according to Claim 11.

20. A method for affording pathogen resistance to a host plant, comprising the step of:

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transforming the host plant with the DNA construct according to Claim 11.

21. A plant into which a pathogen-responsive promoter according to Claim 5 has been exogenously introduced.

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22. A plant into which the DNA according to Claim 8 has been exogenously introduced.